

NOTE ON FREQUENCY IN PHONETIC CHANGE

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ABSTRACT: It is claimed that frequency of individual words may not be sufficient to predict the likelihood of a particular word being affected by a phonetic process: Given two environments that can equally trigger phonetic change, the same lexical item may be more likely to undergo change in one environment than in another, depending on how frequently the environment is associated with that item. An ongoing raising process in colloquial modern Hebrew illustrates the point: Raising of *e* to *i* verb-initially, when immediately preceded by a word-final *i*, is more likely to apply where the conditioning environment (here the pronoun) is obligatorily present, e.g. *ani extov* 'I will write' > *ani ixtov*, *i evina* 'she understood' > *i ivina*. Although analogy may in part be involved (with *u ixtov* 'he will write' and *n*-initial stems like /inpil/ > *ipil* 'he dropped'), obligatory presence of *ani* 'I' in 1st per. masc. sg. future and *i* 'she' in 3rd per. fem. sg. past accounts for *e*-Raising applying to such forms more often than to any others.

1. It has often been noted in the literature (e.g. Schuchardt, 1885 [1972]; Fidelholtz, 1975; Hooper, 1976a, 1976b; etc.) that familiar or frequently used lexical items tend to undergo phonetic change more easily than rarely used ones. The purpose of this note is to introduce an ongoing phonetic process in modern Hebrew, which indicates that frequency counts of individual items may not be sufficient to predict the likelihood of a particular word being affected by a phonetic process. Given two environments that can equally trigger phonetic change, the same lexical item may be more likely to undergo change in one environment than in another, depending on how frequently the environment is associated with that item. As pointed out in Timberlake (1978), sound change typically develops earlier in uniform environments than it does in alternating ones, because the former are a more consistent representative of the environment for the change.

2. In modern Hebrew, one finds variants such as the following:

(1) <i>Formal</i>	<i>Casual</i>	<i>Gloss</i>
ani extov	ani ixtov	'I will write'
ani ezkor	ani izkor	'I will remember'
ani ezaher	ani izaher	'I will take care'
ani eša'er	ani iša'er	'I will stay'
ani etraxec	ani itraxec	'I will wash myself'
ani etragez	ani itragez	'I will get angry'

Although this raising of *e* (henceforth Raising) may be related to some general process affecting *e* in the environment of palatals, as proposed in Semiloff (1972), a more restricted phenomenon will be assumed here, similar to the one suggested by Kupferberg (1976): *e* is raised to *i* verb-initially, when immediately preceded by a word-final *i* and not followed directly by another vowel (p. 23). It is claimed here, however, that Raising is not *a priori* restricted to verbs. Rather, it applies to verbs as in (1) above more easily than to other forms because they (the former) MUST obligatorily be preceded by the pronoun *ani* 'I', which contains the triggering environment. Although 2nd per. pronouns are optional in the future tense, and so are 1st per. pl. pronouns, 1st per. sing. pronouns are obligatory (unlike the past tense, in which all 1st and 2nd per. pronouns are optional). In other words, whenever a 1st per. sing. future form occurs, it will be preceded by the conditioning environment. This is the reason for the ease with which the process applies to these forms, even to ones that by themselves are not that frequent. Raising is not restricted to verbs, then; it is only more likely to apply to 1st per. sing. future forms. It is not blocked from applying to non-verbal categories. We find *i igoistit* 'she is selfish' alongside with *i egoistit*, *i inena po* 'she is not here' in variation with *i enena po*; but there are few such cases, and each of those is less likely to occur than any of the raised versions of (1). The scarcity of non-verbal forms to which Raising applies should be attributed to two reasons: (a) the relative rareness of nouns and verbs starting with *e* and their lower frequency to start with; and (b) the absence of any condition that would require some item ending with *i* to precede them, and thus increase the frequency of the triggering environment actually occurring in continuous speech.

To support the claim that it is the occurrence frequency of a pronoun ending with *i* that facilitates Raising in verbs before it affects other forms, one should observe its application in non-future verb forms as well, i.e. the effect of *ani* 'I' and of *i* 'she' on past tense forms, where the former is optional, and the latter obligatory. Thus, we have:

(2)	<i>Formal</i>	<i>Casual</i>	<i>Gloss</i>
	ani evanti	ani ivanti	'I understood'
	i evina	i ivina	'she understood'
	ani ekamti	ani ikamti	'I raised'
	i ekima	i ikima	'she raised'
	ani exlateti	ani ixlatici	'I decided'
	i exlita	i ixlita	'she decided'
	ani exmacti	ani ixmacti	'I missed (opportunity)'
	i exmica	i ixmica	'she missed (opportunity)'

The data in (2) are not easy to interpret, primarily because another factor is involved: analogical formation. As shown in Barkai (1975) and Bolozky (1978), forms like *evanti* 'I understood', whose root is *b.y.n.*, are sometimes confused with forms with stem-initial *n* that has been deleted before another consonant. In our case, the root *b.y.n.* may be misinterpreted as *n.b.n.*, which results in *evanti* being restructured as *ivanti*, following, for instance, *ipalti* from *n.p.l.* *Ixlatici* may be explained via analogy as well, except that here it would be analogy with the regular canonical form of the verb pattern concerned, i.e. *hi-CCiC*, or *hi-CCaC-ti* in our case (the *e* of *exlateti* reflects an irregularity caused by the presence of historical *h*, which in modern Hebrew is replaced by *x*—see Bolozky 1978, 1980). In other words, it is hard to tell whether *ivanti*, *ixlateti* etc. result from a phonetic rule of Raising, or arise by analogical formation. In fact, it might even be argued that forms in (1) above, such as *ani extov* 'I will write', become *ani ixtov* in casual speech in analogy with the 3rd per. sing. masc. form, which is formally *yixtov* 'he will write,' but *ixtov* in casual style. In a Semitic language, the suggestion of 1st per. masc. sing. forms analogizing with the unmarked 3rd per. masc. sing. is not that far-fetched.

It appears to me, however, that one is not dealing with an either/or situation, and that BOTH analogy and Raising are operating here, complementing each other. It is by no means the work of analogy alone. If it were so, one would expect *ani lo extov* 'I will not write' to be realized as *ani lo ixtov* in casual speech just as easily as *ani extov* changes into *ani ixtov*. But clearly, *ani lo ixtov* is considerably less likely to occur than *ani ixtov* is. Similarly, in past forms, where *ani* is optional, *ani evanti* 'I understood' becomes *ani ivanti* more readily than *ani lo evanti* 'I did not understand' changes to *ani lo ivanti*. Furthermore, *evanti* alone (in the past tense, the pronoun is optional for 1st and 2nd per.) is less likely to be realized as *ivanti* than the full *ani evanti* is to become *ani ivanti* (cf. Kupferberg 1976, p. 25). On the other hand, the fact that *ivanti* does occur, albeit less frequently, does suggest analogical formation, and the

same might be true, to an extent, of *ixlateti* and *ani ixtov* as well. Also, some sub-standard variants of "defective" verbs corresponding to the regular forms of (1) are best described as analogies with the 3rd per. (unless some OTHER phonetic process is assumed), e.g. *ani eevod* 'I will work' → *ani yaavod* (*yaavod* is also 'he will work'), *ani avo* 'I will come' → *ani yavo* (*yavo* is also 'he will come'). In other words, both factors, analogy and Raising, affect the items in (1) and (2) above. The former makes them at least marginally possible, the latter increases the likelihood of their occurrence in casual speech proportionately to the increase in frequency of the triggering environment.

3. Coming back to the causal relationship between the obligatoriness of *ani* in the 1st per. sing. in the future tense and the likelihood of Raising, one should bear in mind that the frequency-of-the-environment argument does not necessarily have to involve an OBLIGATORY *ani* to start with. It is also possible that Raising started as a common-enough process simply owing to the high frequency of *ani* (even when optional) as a personal pronoun, and that in addition to that, analogy contributed to an apparent increase of surface outputs of Raising. As mentioned above, 1st and 2nd per. pronouns are optional in the past; 3rd per. is obligatory. Since each form is uniquely marked anyway, and 1st and 2nd pronoun reference is unambiguous in context, whereas 3rd per. reference is not, such distribution is not arbitrary. But why should the same not hold for future forms, where 1st as well as 3rd per. pronouns are obligatory? Perhaps the obligatory presence of *ani* in future forms was CAUSED by frequent outputs (real and apparent) of Raising, which aroused concern over homonymity with 3rd per. future forms, which in turn dictated the use of *ani* with ANY occurrence of 1st per. future forms to make sure such ambiguity is avoided . . . This hypothesis is supported by the fact that only 1st per. SINGULAR pronouns are obligatory in the future; 1st per. plural pronouns are optional, possibly because no homonymity with other future form would ever arise. It should be noted, though, that even with this interpretation, the occurrence frequency of the environment still plays a crucial role in bringing about the phonetic change.

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